APRIL/MAY 2024

GEPH14A/DEPH14A — ELECTRONIC DEVICES AND APPLICATIONS

Time : Three hours Maximum : 75 marks

SECTION A — (10 × 2 = 20 marks)

Answer ALL the questions.

1. Define the low and high voltage levels of standard TTL gate.

2. Mention some of the uses of LED and photodiode.

3. Explain CMRR in an op-AMP.

4. Write the principle of a sample and hold circuits.

5. Mention some application of IC555 timer.

6. What is the function of pull in time?

7. What are active and passive transducers?

8. Write the working principle of LVDT.

9. Distinguish between pulse position modulation and pulse code modulation.

10. Mention any four advantages of digital communication.

SECTION B — (5 × 5 = 25 marks)

Answer ALL the questions.

11. (a) Explain with circuit, the working of a CMOS inverter.

Or

(b) Explain the principle and working of a P-i-n photodiode.

12. (a) Draw the circuit diagram of differentiator and derive an expression for the output interms of the input.

Or

(b) Explain the usage of op-Amp as log amplifier.

13. (a) Distinguish between astable and monostable multivibrator.

Or

(b) Describe the working principle of PLL IC 565.

14. (a) Discuss the function of photoelectric transducer.

Or

(b) Write a note on optical and particle detectors.

15. (a) With neat diagram explain pulse width modulation scheme.

Or

(b) Discuss the operation of frequency shift keying.

SECTION C — (3 × 10 = 30 marks)

Answer any THREE questions.

16. Describe with the help of a relevant diagram, the construction of an LED and explain its working.

17. Explain the function of op-Amp as instrumentation amplifier.

18. Explain the working of 555 timer connected as Schmitt trigger.

19. Explain the operation of photo emissive transducer.

20. Explain the modes of modem operation. Also briefly discuss modem interfacing.

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